

NEW ORCHID TAXA FROM SOUTH-EASTERN QUEENSLAND

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Summary

Five new species of Orchidaceae are described from south-eastern Queensland: *Corybas montanus* D. Jones, *Corybas barbara* D. Jones, *Pterostylis nigricans* D. Jones & M. Clements, *Thelymitra fragrans* D. Jones & M. Clements and *Caladenia atroclavia* D. Jones & M. Clements.

In the course of studies on the orchids of south-eastern Queensland by the senior author, it has become apparent that a number of undescribed taxa occur in the region. This paper is presented to validate the names of five species for the forthcoming third volume of the Flora of South-eastern Queensland. All species have been discovered during field work. Subsequent examination of the collections of BRI and NSW has shown that with the exception of *Corybas barbara*, these new taxa are poorly represented and have been overlooked by collectors.

***Corybas montanus* D. Jones species nova** affinis *C. unguiculati* R. Br. pedicellis longioribus, floribus rubescentibus labello dentibus prominentibus in pagina ventrali intra orificium ornato differt. **Typus:** Queensland. MORETON DISTRICT: Mt Maroon, 30 May 1987, *D.L. Jones* 2483 and *T.D. Jones*, dense open forest in valley between north and south peak (holo: BRI; iso: BRI,CBG,K,MEL,NSW).

Glabrous terrestrial herb. Leaf 22-38 mm long, 17-30 mm wide, cordate, dark bluish-green above, 3-5 main veins light-coloured, underside greenish-purple, shiny, veins raised, apex recurved, with a very short apiculus. Peduncle 10-13 mm long, 1 mm wide, reddish-pink. Floral bract 5-7 mm long, 4-5 mm wide, broadly ovate, acuminate, closely sheathing. Ovary 6-8 mm long, 1.5 mm wide, linear, curved. Flower 12-14 mm long, nodding, reddish to reddish-purple. Dorsal sepal 11-12.5 mm long, 4.5-6 mm wide when flattened, reddish-purple, the narrow basal stalk to 4 mm long, 2 mm wide, curved, gradually expanded into an ovate, strongly concave lamina, apex more or less truncate. Lateral sepals *ca* 5 mm long, 0.6 mm wide, linear, acuminate, white, embracing the base of the labellum. Petals *ca* 5 mm long, 0.4 mm wide, linear, acuminate, white, curved around side of labellum. Labellum 13-14 mm long, *ca* 15 mm wide when flattened, reddish, tubular, dorsal margins connate, longer than dorsal sepal, 3-lobed. Lateral lobes *ca* 4 mm across, more or less rectangular, falcate. Mid-lobe *ca* 6 mm across, elliptical. Labellum callus central, smooth in proximal 3 mm, next 5 mm densely packed with dark red, cylindrical, moniliform, slightly backward sloping glands in *ca* 10 rows, each gland *ca* 1 mm long, mass *ca* 2 mm across, next 3 mm of dark red teeth decrescent to 0.25 mm long, whole surface around orifice with similar, short, dark red teeth. Labellum orifice *ca* 6 mm across, laterally curved upwards to the apex, margins dark purple, with numerous marginal teeth *ca* 0.25 mm long. Labellum auricles *ca* 3 mm long, white, nearly horizontal, opening *ca* 1 mm wide, narrow, column auricles not protruding through orifice. Column *ca* 4 mm long, curved in distal half; basal auricles *ca* 2 mm long, curved. Anther cap *ca* 1.6 mm long, pale yellow with a dark red blotch, more or less papillate, opening widely. Stigma cordate, sunken, *ca* 1.2 mm across. Pollinarium *ca* 1.2 mm long. Pollinia yellow, mealy, quickly losing cohesion. Capsule 9-11 mm long, 3-4 mm wide, ovoid, on elongated peduncle 6-12 cm long. **Fig. 1A-C.**

Other specimen examined: Queensland. MORETON DISTRICT: Mt Maroon, Jun 1962, *Everist* 7191 (BRI).

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Distribution: South-eastern Queensland, probably extending south over the border but not represented in the New South Wales herbarium.

Habitat: Mountain tops of the McPherson Ranges in open forest and among rocks, in sandy gravelly soils.

Flowering period: June–July.

Affinities: *C. montanus* has affinities with *C. unguiculatus* but can be distinguished by its longer peduncle, reddish rather than purple flowers and the surface around the orifice of the labellum being covered with short, erect teeth.

Notes: This species grows in loose colonies and the flowers are self-pollinating. Although not recorded in New South Wales its abundance in some parts of Queensland close to the border suggests a logical extension into that state.

Conservation status: This species is well conserved in National Parks.

Etymology: The specific epithet was chosen because this orchid grows in mountainous habitats.

Corybas barbarae D. Jones **species nova** affinis *C. aconitiflori* Salisb. floribus albis multum grandioribus sepalo dorsali usque 20 mm lato, labello valde hirsuto labelli auriculis grandioribus a columna prorsum projectentibus constatis differt. **Typus:** Queensland. MORETON DISTRICT: Heritage Creek, south-eastern side of Mt Tamborine, 21 May 1987, *D.L. Jones* 2484 & *B.E. Jones*, protected slopes in open forest (holo: BRI; iso: CBG,K,MEL,NSW).

Glabrous terrestrial herb. Leaf 16–32 mm long, 18–36 mm wide, cordate to orbicular, dull green above, mid-vein whitish, secondary veins not conspicuous, light reddish purple and pellucid beneath, apex apiculate. Peduncle 1–2 mm long. Floral bract 5–6 mm long, 2.5–3 mm wide, ovate, closely sheathing, acuminate. Ovary *ca* 10 mm long, 2.5 mm wide, recurved. Flower solitary, 15–22 mm long, 12–16 mm wide, crystalline white with pink suffusions towards the apex, becoming pinker with age. Dorsal sepal to 32 mm long, 20 mm wide when flattened, broadly elliptical, narrowed at base, curved throughout, concave, bulbous when viewed from front, margins more or less incurved, apex apiculate, outer surface suffused pink, inner surface heavily blotched with purplish-red. Lateral sepals *ca* 1.8 mm long, 0.2 mm wide, linear, acuminate, projected upwards against the base of the labellum. Petals *ca* 1 mm long, 0.2 mm wide, linear, acute, falcate, hidden behind the labellum auricles. Labellum *ca* 12.5 mm long, 7 mm wide, mostly hidden by dorsal sepal, translucent white, a large, dark purple blotch on the inner base, tubular for most of its length, distal margins flared and reflexed against tube, the surface of flared part covered with hispid bristles *ca* 0.25 mm long extending into distal half of tube. Labellum callus thickened, fleshy, folded, opaquely white. Labellum auricles *ca* 5–7.5 mm long, *ca* 2 mm wide, closed, curved forwards from ovary, white. Column *ca* 4 mm long, 2 mm wide, more or less erect, white, broadened towards base. Column wings *ca* 0.5 mm long. Anther *ca* 2 mm long, 1 mm wide, with a very short, blunt rostrum. Stigma *ca* 1 mm across, 1 mm high, rectangular, sunken. Pollinarium *ca* 1.2 mm long, 1 mm wide. Pollinia yellow, mealy. Capsule 14–16 mm long, 5–7 mm wide, ovoid, on elongated peduncle 15–20 cm long. **Fig. 1D–F.**

Selected specimens examined (all BRI): Queensland. COOK DISTRICT: Herberton Range, Apr 1963, *Dockrill* s.n. NORTH KENNEDY DISTRICT: Mt Spec, Jun 1955, *Abell* s.n. MORETON DISTRICT: Mt Coolumb, Jun 1982, *Sharpe* 3205. New South Wales. CENTRAL COAST: Wardell, May 1987, *Jones* s.n.

Distribution: North-eastern Queensland to central-eastern New South Wales (Atherton Tableland to northern suburbs of Sydney).

Habitat: Protected areas in open forest and woodland, usually on sheltered slopes or close to streams in shallow clay loams.

Flowering period: May–July.

Affinities: *C. barbarae* has affinities with *C. aconitiflorus* but can be distinguished by its much larger flowers of a crystalline white coloration, a dorsal sepal twice as wide, a strongly hirsute labellum lamina and larger labellum auricles which project forwards from the ovary.

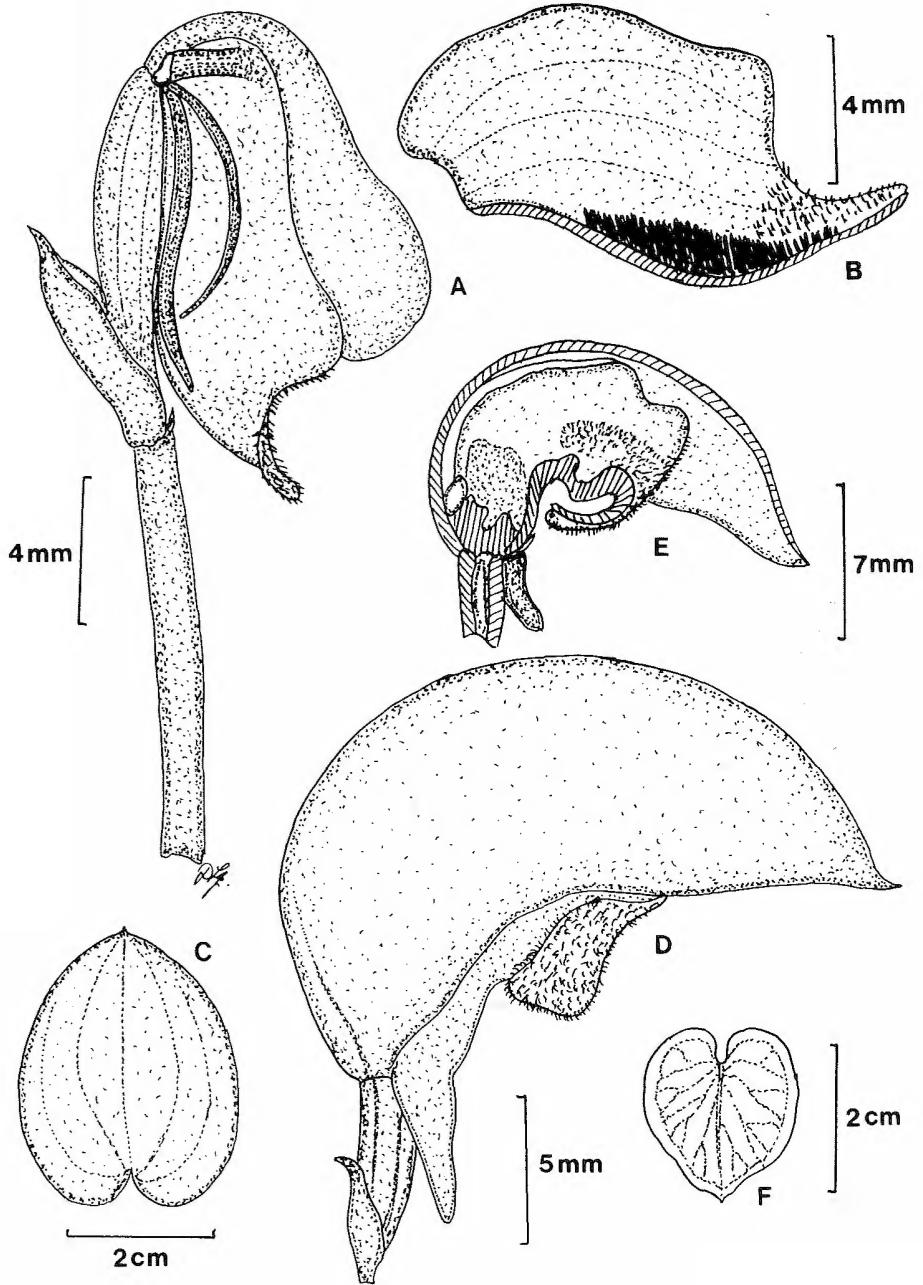


Fig. 1. *Corybas montanus*: A. flower from side. B. L.S. of labellum. C. leaf. *Corybas barbarae*: D. flower from side. E. L.S. of flower. F. leaf. A-C Jones 2483; D-F Jones 2484.

Notes: This common widespread species often forms extensive colonies. It is remarkable that such a well-marked species has been confused with *C. aconitiflorus* for so long.

Conservation status: This species is well conserved in National Parks.

Etymology: This species is named in honour of Barbara Elizabeth Jones, who has encouraged and assisted the orchid research of D.L. Jones for more than 20 years.

Pterostylis nigricans D. Jones & M. Clements **species nova** affinis *P. parviflorae* R. Br. statura elatiore, floribus grandioribus atrochoclatinis labello rhomboideo praeditis differt. **Typus:** Queensland. MORETON DISTRICT: Stradbroke Island, 26 May 1987, Jones 2482, open forest and heathland (holo: BRI; iso: BRI,CBG,NSW).

Glabrous terrestrial herb. Plants 12–32 cm tall, bearing 1–6 flowers. Rosette 1, basal, borne on a lateral growth. Leaves 3–11, ovate to sagittate, 5–16 mm long, 5–8 mm wide, mid-green to bluish-green. Petioles slender, 3–5 mm long. Inflorescence slender, flowers well spaced, 1–3 open at once. Sterile bracts 2–6, 10–14 mm long, 3–4 mm wide, ovate-lanceolate, sheathing to spreading, acuminate. Floral bracts similar. Flowers 9–10 mm long, dark chocolate brown, green and white at base, shiny, with prominent trichomes on the dorsal sepal. Dorsal sepal *ca* 14 mm long, 4.5 mm wide, erect in proximal half then curved forwards, as long as petals, apex bluntly acute. Lateral sepals erect, closely embracing the galea, united part *ca* 6 mm long, 4.5 mm wide; free points *ca* 3 mm long, tapered, erect or curved forwards; sinus step-like, hardly protruding, notched at the centre then flat; labellum not visible. Petals *ca* 9 mm long, 2.5 mm wide, obliquely lanceolate, falcate, dark brown striped with white. Labellum *ca* 3 mm long, 1.5 mm wide, rhomboid, dark brown with narrow white areas on either side of central callus, hardly curved, apex obtuse. Labellum callus of a raised central ridge, dark brown. Basal appendage *ca* 1.5 mm long, broad at base, trifid, more or less decurved. Column *ca* 5 mm long, erect. Wings *ca* 1.5 mm long, brown, outer margins curved or more or less indented, upper part produced into a linear lobe *ca* 0.6 mm long, lower part obtuse, slightly hairy. Anther *ca* 1 mm long, with a short rostrum. Stigma *ca* 1.5 mm wide, 1.5 mm high, scutiform, more or less central. Pollinia *ca* 1.2 mm long, linear-clavate, yellow, mealy. Capsule 7–9 mm long, 4–5 mm wide, ovoid. **Fig. 2E–G.**

Other specimen examined: New South Wales. NORTH COAST: Byron Bay, May 1986, Jones s.n. (BRI).

Distribution: South-eastern Queensland and north-eastern New South Wales.

Habitat: Scrubs and heathland in coastal and near-coastal districts in sandy soils.

Flowering period: March–May.

Affinities: *P. nigricans* is closely related to *P. parviflora* R. Br. but can be readily distinguished by its much taller habit and the larger, chocolate brown flowers with a rhomboid labellum.

Notes: This species grows in colonies and is often locally common. The flowers exude an unusual smell resembling semen, most noticeable in showery weather.

Conservation status: Although fairly widely distributed, this species is only known to be represented in one National Park. Much of its habitat is likely to be destroyed by coastal development. Suggested status 3RC according to Leigh, Briggs and Hartley (1981).

Etymology: The specific epithet refers to the very dark coloration of the flowers.

Thelymitra fragrans D. Jones & M. Clements **species nova** affinis *T. nudae* Lindley folia multum latiore membranaceiore flaccido, pilorum caespitibus globosis, floribus odorem valde aromate conditum exhalentibus differt. **Typus:** Queensland. MORETON DISTRICT: O'Reilly's property, Green Mountains, 14 September 1987, Harman s.n., in clumps of *Dendrobium kingianum* on exposed escarpments (holo: BRI; iso: AD,BRI,CBG,NSW).

Glabrous terrestrial herb. Tubers to 5 cm long, 2 cm wide, obovoid to ovoid, brown, fleshy. Leaf 8–27 cm long, 10–22 mm wide, linear-lanceolate to lanceolate, usually flaccid, bright green, shiny, not thick textured, shallowly channelled, acute to acuminate. Inflorescence 15–35 cm tall, slender, wiry, with 2 closely ensheathing, lanceolate, acuminate

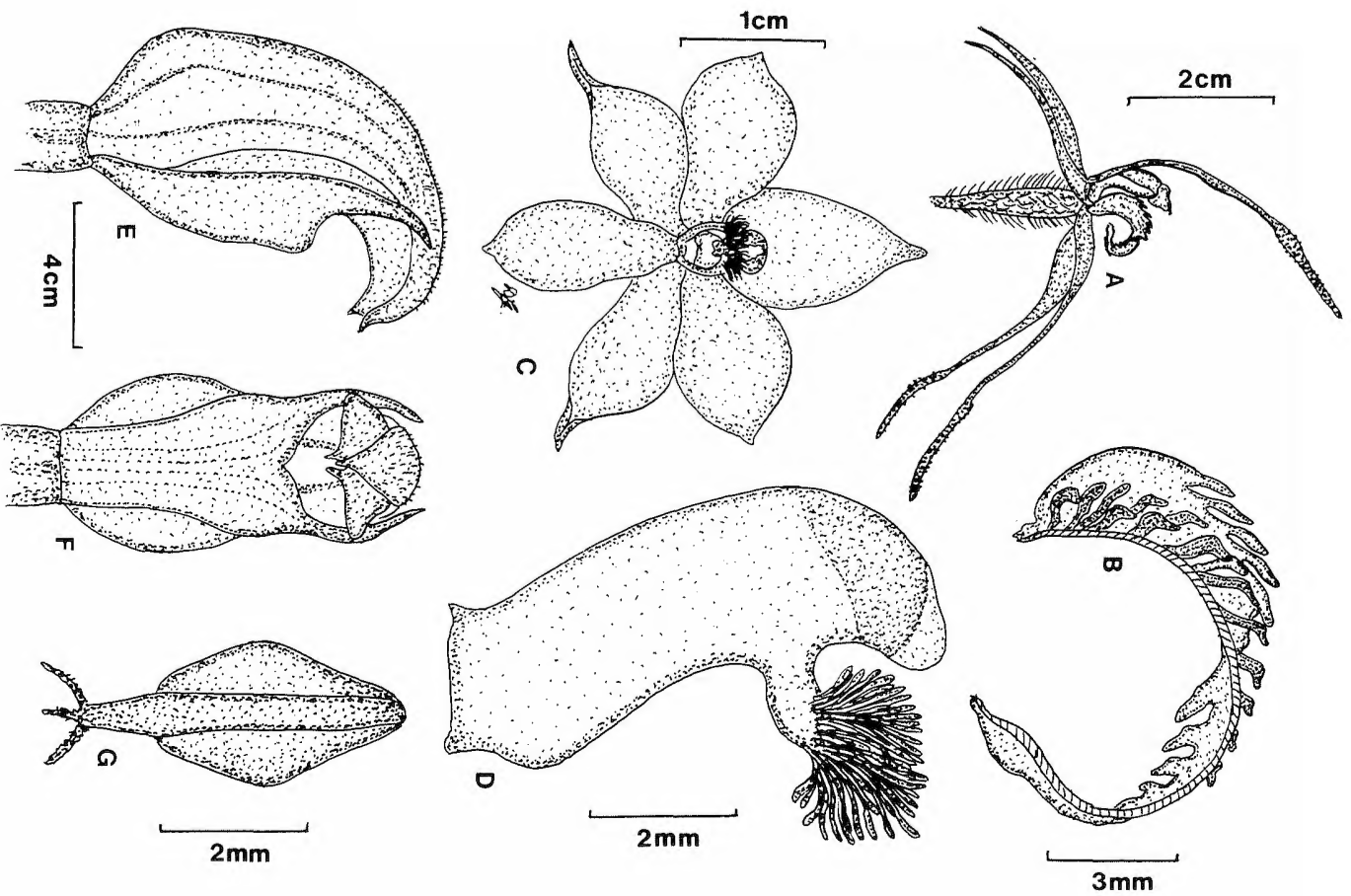


Fig. 2. *Caladenia atroclavata*: A, flower from side; B, L.S. of labellum. *Thelymitra fragrans*: C, flower from front; D, column from side. *Pterostylis nigricans*: E, flower from side; F, flower from front; G, labellum from above. A, B Jones 2485; C, D Hartman s.n.; E-G Jones 2482.

sterile bracts 3–5 cm long, 6–8 mm wide. Floral bracts 10–20 mm long, 6–8 mm wide, ovate-lanceolate, acuminate. Flowers 2–11, 25–30 mm across, bright blue to mauve, sometimes with pinkish tinges, the segments spreading readily or reflexing at temperatures above *ca* 18°C, with a strong, spicy fragrance. Dorsal sepal 10–15 mm long, 4–6 mm wide, lanceolate, unequally acute to acuminate. Lateral sepals 10–15 mm long, 4–6 mm wide, lanceolate, unequally acute to acuminate. Petals 10–14 mm long, 5–7 mm wide, ovate, subacute. Labellum 10–14 mm long, 5–6 mm wide, obovate-spathulate, obtuse to subacute. Column 6–7 mm long, slightly recurved, white, hooded. Column-arms *ca* 1 mm long, more or less terete, projected forwards, the basicopic margins abruptly turned upwards near the apex, ending in hair tufts; cilia *ca* 2 mm long, white, clavate, not moniliform, numerous, crowded in more or less globose masses. Post-anther lobe cinnamon-brown, yellowish at the margin, deeply notched, dilated laterally, smooth with a few very small papillae adjacent to the notch, overlapping the hair tufts. Anther *ca* 3 mm long, 2–8 mm wide, with a very short rostrum *ca* 0.2 mm long, concealed by the stigma. Pollinarium *ca* 2 mm long, 2 mm wide, consisting of 2 pairs of cohesive, white pollinia *ca* 2 mm long, 1 mm wide, attached directly to a scutiform viscidium *ca* 0.5 mm long, 0.5 mm wide. Stigma *ca* 3 mm wide, 2.8 mm high, more or less rectangular to scutiform, deeply notched, upper margin more or less crenate. Capsule 10–14 mm long, 6–8 mm wide, obovoid. **Fig. 2C & D.**

Distribution: South-eastern Queensland and north-eastern New South Wales (McPherson Range to Whian Whian State Forest but probably extending further south).

Habitat: Rocky escarpments and rocky slopes in open forest, often adjacent to streams. This species occurs in similar habitats to *D. kingianum* and in fact is usually found growing in clumps of this epiphyte, with the tubers buried among its pseudobulbs and root system.

Flowering period: August–October.

Affinities: *T. fragrans* is closely related to *T. nuda* (with which it has been previously confused) but can be readily distinguished by its broad, thinner-textured, flaccid leaf, its more or less globose hair tufts and its strong, spicy floral fragrance. By contrast *T. nuda* has a thick, ribbed, erect leaf, brush-like hair tufts and a sweet, but much less noticeable, perfume. It grows in sclerophyll forests but does not favour rocky slopes and escarpments. The predeliction of *T. fragrans* for clumps of *Dendrobium kingianum* is notable.

Conservation status: *T. fragrans* is widespread and well represented in National Parks.

Etymology: The specific epithet refers to the strong floral fragrance.

Caladenia atroclavia D. Jones & M. Clements **species nova** affinis *C. fitzgeraldii* Rupp labelli dentis marginalibus longioribus, clavis apicalibus longioribus crassioribus fuscatis in sepalis ornatis differt. **Typus:** Queensland, DARLING DOWNS DISTRICT: Wyberba, 11 October 1987, Jones 2485, in open forest in gravelly soil (holo: BRI).

Hirsute terrestrial herb. Leaf 8–12 cm long, 5–10 mm wide, linear-lanceolate to lanceolate, erect, hirsute with patent, uniseriate, eglandular trichomes to 2.5 mm long, base irregularly blotched with red-purple. Inflorescence 25–35 cm tall, wiry, hirsute with spreading uniseriate, eglandular trichomes to 2.5 mm long. Sterile bract *ca* 20 mm long, 2 mm wide, linear-lanceolate, involute, acuminate, externally hirsute, situated near middle of scape. Fertile bract *ca* 20 mm long, 4 mm wide, lanceolate, acuminate, closely sheathing, externally pubescent. Flower usually solitary, *ca* 6 cm across, segments spreading then drooping in distal half, pale greenish cream with red suffusions especially on petals, the sepals with prominently thickened, dark reddish purple osmophores (clubs), floral fragrance resembling an overheated electrical motor. Dorsal sepal 38–45 mm long, 1.5–2 mm wide, erect, incurved, linear-lanceolate at base then narrowed to a channelled part *ca* 0.5 mm wide, central stripe reddish, narrow, terminated by a thickened, dark reddish purple osmophore *ca* 13 mm long, 1 mm across, consisting of minute, densely packed, reddish purple, globular, sessile glandular cells. Lateral sepals 39–45 mm long, 3–3.5 mm wide, linear-lanceolate, falcate, divergent, with a narrow central reddish stripe, abruptly narrowed in distal half to a channelled section *ca* 0.3 mm wide, terminated by an osmophore similar to that of the dorsal sepal. Petals 30–35 mm long, 1.3–1.5 mm

wide, linear-lanceolate, long-acuminate, with a prominent red central stripe. Labellum articulated on a short claw *ca* 1.4 mm long, 0.5 mm wide. Lamina 13–15 mm long, 8–10 mm wide, narrow ovate to narrow cordate when flattened, green in proximal half, dark maroon in distal half, erect in proximal half then somewhat flattened, strongly recurved in distal third; proximal margins with 6–8 linear, spreading, curved, somewhat clavate teeth to 1.5 mm long; distal margins with broad, forward-facing, obtuse teeth decrescent to irregular protrusions near the apex. Lamina calli in 4 rows extending about half way to apex, dark maroon, congested at labellum base, stalked, decreasing in size and becoming sessile; basal calli *ca* 2 mm long, stalked, head swollen, clavate, *ca* 0.5 mm across; longest lamina calli *ca* 2.2 mm long, long-stalked, flat-topped, teardrop-shaped from above. Column 8–10 mm long, 4.5–5 mm wide, recurved in proximal half then strongly incurved, green, broadly winged; basal glands *ca* 1.2 mm long, 0.8 mm wide, asymmetrically clavoid, shiny yellow with red base. Anther *ca* 2 mm long, 2 mm wide, green, with a very short rostrum. Pollinia 4, *ca* 2 mm long, boomerang-shaped, flat, yellow. Stigma *ca* 1.5 mm wide, green, more or less circular. Capsule not seen. **Fig. 2A & B.**

Distribution: South-eastern Queensland (Wyberba in the Darling Downs district); probably extending into similar terrain in northern New South Wales.

Habitat: Open forest in grey gravelly soils of granitic origin.

Flowering Period: October.

Affinities: *C. atroclavia* has been confused with *C. fitzgeraldii* Rupp (Rupp 1943, Hunt 1947) and to a lesser extent *C. reticulata* Fitzg., neither of which occur in Queensland. It can be immediately distinguished from both taxa by the very prominent, much longer, dark-coloured terminal osmophores on the sepals. Also its marginal labellum teeth are longer than those of *C. fitzgeraldii* and extend nearly to the apex as irregular protruberances (entire in *C. fitzgeraldii*) but much shorter than those of *C. reticulata* which has teeth to 3 mm long. The senior author was unable to find any herbarium material of this species in either BRI or NSW.

Conservation Status: *C. atroclavia* is at present known only from the Wyberba area, but it is known to be conserved in Girraween National Park. Its conservation status is suggested as 2RC following the criteria of Leigh, Briggs and Hartley (1981).

Etymology: The specific epithet refers to the prominent, dark coloured sepalline osmophores (clubs).

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